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ABSTRACT

Research on the effectiveness of early intervention with handicapped children is reviewed in this information digest. Presented in question and answer format, the digest addresses the following questions: What is early intervention? Why intervene early? Is early intervention really effective? Is early intervention cost effective? Are there critical features to include in early intervention? It is concluded that both quantitative and qualitative data indicate that early intervention increases the developmental/educational gains for the child resulting in (1) his needing few special education and other habilitative services later in life; (2) being retained in grade less often; and (3) in some cases being indistinguishable from nonhandicapped classmates years after intervention. Long term cost effectiveness is also supported by the data. Characteristics of successful early intervention programs include intervening when the child is as young as possible, involving parents in the child's treatment, and structuring the program to precisely identify child and family objectives and teaching behaviors. (DB)

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DIGEST #455

DOES EARLY INTERVENTION HELP?

What Is Early Intervention?

Early intervention means discovering that a child between birth and school age has or is at risk of having a handicapping condition or other special need that may affect his or her development and then providing services to the child and family to lessen the effects of the condition. Early intervention can be remedial or preventive in nature—remediating existing developmental problems or preventing their occurrence.

Early intervention may focus on the child alone or on the child and the family together. Early intervention programs may be center-based, home-based, hospital-based, or a combination. Services range from identification, that is, hospital or school screening and referral services, to diagnostic and direct intervention programs. Early intervention may begin at any time between birth and school age; however, there are many reasons to begin as early as possible.

Why Intervene Early?

There are three primary reasons for intervening early with an exceptional child—to enhance the child's development, to provide support and assistance to the family, and to maximize the child's and family's benefit to society.

Child development research has established that the rate of human learning and development is most rapid in the preschool years. Timing of intervention becomes particularly important when a child runs the risk of missing an opportunity to learn during a state of maximum readiness. If the most "teachable moments" or readiness stages are not taken advantage of, a child may have difficulty learning a particular skill at a later time. Karnes and Lee (1978) have noted that "only through early identification and appropriate programming can children develop their potential" (p. 1).

Early intervention services have a significant impact as well for the parents and siblings of an exceptional infant or young child. The family of a young exceptional child often feels disappointment, social isolation, added stress, frustration, and helplessness. The compounded stress of the presence of an exceptional child may affect the family's well-being and interfere with the child's development. Families of handicapped children are found to experience increased instances of divorce and suicide, and the handicapped child is more likely to be abused than is a nonhandicapped child. Early intervention for parents can result in improved attitudes about themselves and their child, improved information and skills for teaching their child, and more release time for leisure and employment. Parents of gifted preschoolers also need early services so that they may better provide the supportive and nourishing environment needed by the child.

A third reason for intervening early is that society will reap maximum benefits. The child's increased developmental and educational gains and decreased dependence upon social institutions, as well as the family's increased ability to cope with the presence of an exceptional child, and perhaps increased ability for employment, provide economic as well as social benefits.

Is Early Intervention Really Effective?

After nearly 50 years of research, there is evidence—both quantitative (data-based) and qualitative (reports of parents, teachers)—that early intervention increases the developmental/educational gains for the child, improves the functioning of the family, and reaps long-term benefits to society. Early intervention has been shown to result in the child: (a) needing fewer special education and other habilitative services later in life; (b) being retained in grade less often; and (c) in some cases being indistinguishable from nonhandicapped classmates years after intervention.

Disadvantaged and gifted preschool-aged children benefit from early intervention as well. Longitudinal data on disadvantaged children who had participated in the Ypsilanti Perry Preschool Project showed that they had maintained significant gains at age 19 (Berrueta-Clement, Schweinhart, Barnett, Epstein, & Weikart, 1984). These children were more committed to schooling and more of them finished high school and went on to postsecondary programs and employment than children who did not attend preschool. They scored higher on reading, arithmetic, and language achievement tests at all grade levels; showed a 50% reduction in the need for special education services through the end of high school; and showed fewer anti-social or delinquent behaviors outside of school. Karnes (1983) asserts that underachievement in the gifted child may be prevented by early identification and appropriate programming.

Is Early Intervention Cost Effective?

The available data emphasize the *long-term* cost effectiveness of early intervention. The highly specialized, comprehensive services necessary to produce the desired developmental gains are often, on a *short-term* basis, more costly than traditional school-aged service delivery models. However, there are significant examples of long-term cost savings that result from such early intervention programs.

- A longitudinal study of children who had participated in the Perry Preschool Project (Schweinhart & Weikart, 1980) found that when schools invest about $3,000 for 1 year of preschool education for a child, they immediately begin to recover their investment through savings in special education services. Benefits included $668 from the mother's released time while the child attended preschool; $3,353 saved by the public schools because children with preschool education had fewer years in special education and were retained for fewer years in grades; and $10,798 in projected life-time earnings for the child.
- Wood (1981) calculated the total cumulative costs to age 18 of special education services to a child beginning intervention at : (a) birth; (b) age 2; (c) age 6; and (d) at age 6 with no eventual movement to regular education. She found that the total costs were actually less if begun at birth! Total cost of special services begun at birth was $37,273 and total cost if begun at age 6 was between $46,816 and $53,340. The cost is less when intervention is earlier, because of the remediation and prevention of developmental problems which would have required special services later in life.
- A 3-year follow-up in Tennessee showed that for every dollar spent on early treatment, $7.00 in savings were realized within 36 months. This savings resulted from deferral or special class placement and institutionalization for severe behavior disordered children (Snider, Sullivan, & Manning, 1974).

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- A recent evaluation of Colorado's state-wide early intervention services reports a cost savings of $4.00 for every dollar spent within a 3-year period (McNulty, Smith, & Soper, 1983).

Are There Critical Features to Include in Early Intervention?

While there have been too few attempts to determine critical features of effective early intervention programs, there are a few factors which are present in most studies that report the greatest effectiveness. These program features include: (a) the age of the child at the time of intervention; (b) parent involvement; and (c) the intensity and/or the amount of structure of the program model.

- Many studies and literature reviews report that the earlier the intervention, the more effective it is. With intervention at birth, or as soon after the diagnosis of a disability or high risk factors, the developmental gains are greater and the likelihood of developing problems later is reduced (Cooper, 1981; Garland, Stone, Swanson, & Woodruff, 1981; Maisto & German, 1979; Strain, Young, & Horowitz, 1981).
- The involvement of parents in their child's treatment is also important. The data show that parents of both handicapped and gifted preschool-aged children need the support and skills necessary to cope with their child's special needs. Outcomes of family intervention include: (a) the parent's ability to implement the child's program at home; and (b) reduced stress that facilitates the health of the family. Both of these factors appear to play an important role in the success of the program with the child (Beckman-Bell, 1981; Cooper, 1981; Garland et al., 1981; Karnes, 1983; Lovaas & Koegel, 1973; Shonkoff & Hauser-Cram, 1987).
- Certain "structural" features are also related to the effectiveness of early intervention, regardless of the curriculum model employed. Successful programs are reported to be more highly structured than less successful ones (Shonkoff & Hauser-Cram, 1987; Strain & Odom, in press). That is, maximum benefits are reported in programs that: (a) clearly specify and frequently monitor child and family behavior objectives; (b) precisely identify teacher behaviors and activities that are to be used in each lesson; (c) utilize task analysis procedures; and (d) regularly use child assessment and progress data to modify instruction. In addition to structure, the intensity of the services, particularly for severely disordered children, appears to affect outcomes. Individualizing instruction and services to meet child needs also is reported to increase effectiveness. This does not necessarily mean one-to-one instruction. Rather, group activities are structured to reflect the instructional needs of each child.

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